Dr. Gibbon once, very much to his distress, divided the vas in a young man, and did an invagination anastomosis, very much after the style of Murphy's anastomosis of a blood vessel. Although he was very much disappointed at the time of this accident, he got a great deal of comfort in finding out that a number of men who had done a large number of hernia operations had had a similar experience. He feels certain, however, that such an accident having once occurred, it is never likely to be done by the same operator again. In reply to this question Dr. Davis stated that the later history of the patient was not known to him.

THE USE OF CHLORIDE OF ETHYL AS A GENERAL ANÆSTHETIC.

Dr. W. E. Lee read a paper with the above title, giving a report of 5000 cases at the Pennsylvania Hospital. For this paper see page 641.

Dr. G. G. Davis asked how many of the patients which died were colored people? He thinks anæsthetics are far more fatal with this race than with white people because their color prevents the early recognition of the changes due to failure in the circulation.

Dr. John H. Gibbon said Dr. Lee had shown how superlatively statistics can lie, and he thinks that everyone reaches his own conclusions as to the safety of anæsthetics from his personal experience. For five or six years Dr. Gibbon has used chloride of ethyl absolutely for short operations, nothing but chloride of ethyl, and practically always uses it as a preliminary to ether. He has in his experience but one death to report. That was in a man who had a Ludwig's angina and an endocarditis. He was afraid to give him any general anæsthetic because of his heart condition, and therefore infiltrated the line of incision with Schleich fluid first, and then he found that the patient had a lot of exudate deep down in his neck and manipulation was very painful, so it was necessary to give him an anæsthetic. Chloride of ethyl was given, followed by ether, and Dr. Gibbon then evacuated a quantity of turbid fluid from behind the sternum. Just as this fluid was evacuated the patient ceased breathing and died on the table. No ether had been given for a number of minutes, as the patient seemed completely anæsthetized. A quick tracheotomy was done and artificial respiration kept up for some time, but without avail.

As Dr. Lee has said, deaths in these cases occur from any anæsthetic. Excepting the case just recorded Dr. Gibbon has never had a death from chloride of ethyl, and he has used it thousands of times with the greatest impunity. His feeling is that in safety it occupies a place between ether and chloroform. Most people think it more fatal than ether, and probably less than chloroform. Dr. Gibbon gives it to the youngest and to the oldest patients—children a few days old, very ill patients with typhoid perforation, and patients with tuberculous lesions of the lungs. It is the anæsthetic of choice in his worst cases.

In one, a tuberculous case, he resected four ribs for empyema, and he has done other extensive operations lasting as long as twenty minutes. In the cases where death has occurred, he thinks it would have occurred with any anæsthetic. He has had more than one death occur on the table from ether alone, and in one of these cases there was no pulmonary or cardiac lesion. The patient was suffering from tuberculous glands of the neck and died just as the incision was made.

Dr. Gibbon's experience with chloride of ethyl makes him feel that it is a safer anæsthetic than ether. It is not disagreeable to take, and he says this because he has himself taken it. He does think it should be given with discretion. It has the great advantage of shortening the time for the anæsthetic and cutting down the amount of ether which the patient will have to inhale and afterwards eliminate.

In comparing the mortality in anæsthesias we should also include the cases of postoperative pneumonia, bronchitis and suppression of urine occurring as a result of ether.

DR. A. P. C. ASHHURST reminded the Fellows that his father, the late Dr. John Ashhurst, Jr., used to lay a great deal of stress on giving ether in a good light, and constantly inveighed against the miserable dark holes provided for the administration of anæsthetics in one large hospital to which he was surgeon.

DR. RICHARD H. HARTE had used ethyl chloride a great deal and for many years, but is not as enthusiastic over its use as some operators are. Every time he gives it it is with a feeling of uncertainty, because one cannot carelessly give an anæsthetic which is so quick in its action. He has many times started to count twenty with the beginning of this anæsthetic and by the time twenty would be reached the patient would be completely anæsthetized. The great danger of this anæsthetic is therefore the little warning which is given. It is, however, one of the most delightful anæsthetics which can be imagined—no nausea, no choking sensation, no distress of any kind, the patient simply passing into a quiet sleep.

Dr. Harte feels, however, that if it was used as indiscriminately and as carelessly as is ether, the mortality from its use would be much greater. He considers it a great wonder, with the careless way in which ether is administered, that its mortality is not greater. Ethyl chloride is given by few surgeons, and only practically by persons skilled in its use or in the use of anæsthetics, and consequently the mortality rate is low. It has a great many advantages, particularly preliminary to the administration of ether, and it has also undoubtedly cut down the quantity of ether necessary to complete unconsciousness.

Dr. Harte never gives ethyl chloride except as a preliminary in any case where he expects a delay. He uses it for opening an abscess or for putting in a drainage-tube, but where the patient is to be kept under the anæsthetic for any length of time, say more than five or six minutes, he does not use ethyl chloride.

Relative to the remark made by Dr. Gibbon that he had never experimented with anæsthetics on himself, Dr. Harte thought more could be learned from such experimentation than from the anæsthetization of five hundred other people.

Dr. W. Joseph Hearn agreed with Dr. Harte that the rapidity with which anæsthesia is induced with chloride of ethyl is its chief danger. A few years ago at the Jefferson Hospital when the bottle of ether was immersed in a tub of hot water during administration it was found that the concentration of the vapor was too great, and this method of administration consequently had to be abandoned because the anæsthesia was induced so rapidly that it was hard to recognize the danger signals.

Dr. Walter E. Lee, in closing, said that in regard to the color of the patients who died, all five of them were negroes and that one of the ether deaths occurred in a patient of this same race. The question of the rapidity of the appearance of anæsthesia, of which Dr. Harte and Dr. Hearn have spoken, is undoubtedly an objection to the general use of ethyl chloride. As it is given in England in large mass doses of from 3 to 10 c.c. in a closed inhaler with the admission of very little air, deep anæsthesia is reached after 5 or 10 inspirations. In Dr. Lee's experience the danger signs during the administration of ethyl chloride are very difficult to recognize, the slowing of the respiration is insidious and they have probably ceased for some seconds before the anæsthetist realizes it. For this reason the closed inhalers have been abandoned in the hospital and the open method used which has lengthened the administration period from 8 to 10 seconds to 3 to 4 minutes, giving more time for the recognition of the danger signals.